

APPENDIX B

Economic Impact Models

Definition of Travel and Tourism

The United Nations Statistical Commission in collaboration with the World Tourism Organization established the preferred global definitions regarding travel and tourism. The basic definition for travel and tourism is “any person traveling to a place outside their usual environment for not more than one consecutive year.” This definition thus applies to economic activity from business or vacation purposes, regardless of the duration of the trip (less than a year). Likewise, this definition does not distinguish between a non-resident visitor and a resident visitor. In assessing the economic impact of travel and tourism, a primary consideration is the export factor or residual spending that is brought to a country, state or county from non-resident visitors. From a county perspective, money spent by a tourist from another part of Utah is no different than money spent by a visitor from another state. From a state perspective however, tourism is an export activity only when the spending is by a non-Utah resident. For this reason, the economic impact models used by the Utah Travel Council have considered two different sets of data for assessing statewide versus county-based tourism.

County-based Employment Model

The current county-based employment model (revised 1998) is based on an analysis of SIC employment data at the four digit-level. Data from 1996 was used as a baseline year. A list of ninety-five travel and tourism-related industries as defined by four-digit SIC codes were selected by a workgroup of economists from the Utah Department of Workforce Services, the Department of Community and Economic Development and the Governor’s Office of Planning and Budget. Location quotients and minimum employment calculations for the ninety-five selected industries were calculated for each county. Since misleading conclusions about tourism activity could be inferred from each calculation separately, the average of the two calculations was used to compensate for any under- or over-estimating due to local circumstances. In addition, exceptions were made for a few industries that could be considered highly tourism dependent. In order to simplify the analysis, the ratio of travel and tourism employment (as defined by the average indicated above) to total nonagricultural employment

was combined as a weighted average to nineteen broader categories defined by two-digit SIC codes. Consequently, each of the nineteen industry ratios was specific to each county. Since dramatic short-term changes in the ratios as a result of fluctuations in either minimum employment or location quotients are unlikely, simplified ratios could be used to calculate tourism related employment in subsequent years. Periodic revisions to both calculations should be made approximately every three to five years.

Statewide Employment Model

In contrast to county-based models, statewide travel related employment do not allow for intra-state travel. Travel between counties constitutes an export activity at the county level, but the state receives no additional benefit from the travel by a resident of one county to another. Previous year’s calculations for statewide tourism employment used aggregated county figures. Current statewide estimates of travel related employment and spending are dependent on statewide location quotients, which are used independent of county figures. The result is a significant departure from past methodology with two separate and distinct calculations: one for the state as a whole, the other for individual counties.

In addition to the direct travel related employment figures, statewide indirect and induced tourism employment was calculated through an Input-Output model by the Governor’s Office of Planning and Budget with 1996 as the base year. Ratios between direct travel employment and indirect and induced travel employment were used in subsequent years. Whereas direct tourism employment represents jobs immediately created by tourism spending, indirect and induced employment represent additional employment that occurs as the initial spending ripples through the economy. Indirect and induced jobs are created as travel industry businesses purchase goods and services from local suppliers or as travel and tourism employees spend their salaries on local goods and services. This multiplier effect of buying and selling significantly increases tourism’s total economic impact to the state’s economy, but should distinguished as an indirect impact, not directly created by traveler spending.

Specific Calculations

- Location Quotients (LQ) – County estimates compared to U.S. estimates
$$LQ = (E_{c,i} / E_{c,Tot}) / (E_{U.S.,i} / E_{U.S.,Tot})$$
$$\% \text{ export related} = (LQ - 1) / LQ$$

E = Employment
c = County (Utah)
i = Industry (SIC Code)
Tot = Total Employment
- Minimum Employment – Calculation assumes that over twelve months, the low point in employment is the minimum requirement to service the local population and the difference between the month of minimum employment and the month of maximum employment represents the employment base necessary to service the non-resident or tourist population.

$$\text{Minimum requirement \%} = (\text{Max.} - \text{Min.}) / \text{Max.}$$

$$\text{Minimum requirements \% less than 1} = \text{export based employment}$$

- Tourism employment = $((\text{minimum requirement \%} + LQ \%) / 2) * \text{average nonfarm employment}$
- Using weighted averages, the proportion of tourism related employment is estimated for nineteen industries two-digit SIC codes.
- County specific modifications
 - Only location quotients were used due to a relative lack of seasonality in four counties: Grand, Iron, Summit and Washington.
 - Certain SIC codes were considered highly tourism dependent and calculations were modified to reflect this dependency.

4121 Taxicabs	7011 Hotels and Motels
4512 Air Transportation, scheduled	7514 Car Rentals
4724 Travel Agencies	7999 Amusement and Recreation, NEC
4725 Tour Operators	
 - Eating and drinking (SIC 58) is a tourism dependent industry depending on the county, and is also subject to variations according to urban or rural classification (rural Utah residents frequent eating and drinking establishments at rates below the national average). As a result, SIC 58 was modified for all non-metro counties (all but Salt Lake, Weber, Utah, and Davis) to reflect minimum requirements – and thus seasonality – rather than the LQ – minimum average. Based on American Express traveler expenditure data for business travelers, SIC 58 was altered in Salt Lake County to reflect 25% travel related employment in order to capture business travel impacts that would not otherwise be included in the models.

Statewide Spending Model

Total statewide traveler spending is generated through a “bottom-up” model. Estimates are first made for total non-resident visitation based on airport passenger counts and vehicle traffic counts at state borders along Interstates and major highways. This estimate is then multiplied by the average stay and per-day spending to determine a preliminary estimate of total traveler spending. Both length of stay and per-day spending estimates are taken from traveler profile surveys. The preliminary estimate is compared to visitation counts at destinations throughout the state, tax data, occupancy rates and anecdotal experience from the state’s various industry partners to ensure consistency and accuracy.

If necessary, revisions are made to reflect the additional input. The revised estimate of statewide traveler spending is subject to peer review by members of the Governor’s Council of Economic Advisors.

County Traveler Spending Model

County estimates for traveler spending are determined based on the assumption that traveler spending and employment are directly proportional. That is, each additional travel related job creates an additional (\$X) amount of traveler spending. Using the county-based estimates for travel related employment, distribution percentages are calculated for each county. The distribution estimates are

simply the ratio of the number of travel related jobs in a given county divided by the aggregation of travel-related jobs in all counties. For example, the 5,340 travel-related jobs in Davis County in 2000 represented 6.6% of travel related jobs in all counties (5,340 / 80,500). Davis County accounts for 6.6% of total travel related employment in Utah. According to the assumption of a direct correlation between traveler spending and employment, Davis County would also account for 6.6% of total traveler spending. Thus, applying the 6.6% distribution ratio to the statewide estimate for traveler spending produces the Davis County estimate for traveler spending (\$4,250 million * 6.6% = \$282 million). Similar calculations are used for each of Utah's twenty-nine counties.

Statewide Tax Impact Model

Historic and current data from several national tourism economic impact models suggest that state and local tax collections reflect an average tax rate of approximately 8% of traveler spending. Previous estimates had placed the tax rate at a slightly lower 7.3%. Therefore, to make the Utah data more consistent with other national sources, the 1999 edition revised state and local tax contributions from 7.3% to 8.0%. Based on Utah's tax distribution system, the local tax portion of the total remains at an estimated 26% of total tax revenues. The remaining 74% is allocated to the State.

County Local Tax Impact Model

Similar to the county traveler spending model, the county local tax impact model assumes a relationship between traveler spending, tax impacts and employment. Since local tax impacts can be seen simply as a percentage of county traveler spending, the same distribution ratio that was used to calculate county traveler spending is used to calculate county local tax impacts. Another way of arriving at the same calculation is to assume that the historic 8% tax rate on traveler spending applies at the county level. Therefore, the county's local tax impact could be calculated by first applying the 8.0% tax rate to county estimates of traveler spending. Then, the full tax revenue estimate is separated into its local component (26%) producing the local tax impact. Either calculation results in the same number.

Non-Resident Visitation Model

The methodology for computing total non-resident visitation was more precisely defined in the 1999 edition. Whereas prior estimates were based on a combination of vehicle traffic along the state's major highways and Interstates and air traffic at Salt Lake International Airport, the 1999 edition more precisely

limits the scope of vehicle traffic counts to the top fifteen highways and Interstates. In addition, estimates for non-resident traffic and the number of persons per vehicle were updated with the most recent information available, replacing prior estimates from 1995. Prior year estimates remain unchanged since the new methodology does not significantly alter the results. International visitation data are based on recent surveys of international visitation to national parks and visitation trends as reported by the U.S. Department of Commerce's *In-Flight Survey*. The *In-Flight Survey* visitation numbers for Utah are a good indication of general tourism trends, but due to sampling issues total Utah visitation is likely underestimated. Other survey data suggest a more accurate visitation number that is roughly 30% percent higher than estimates published in the *In-Flight Survey*. The published figures in this report reflect an upward revision designed to correct for the sampling error.

Source of data

Much of the data in this report comes directly from the various responsible agencies: the Utah Tax Commission, the National Park Service, the Utah Department of Transportation, etc. All data are for the respective calendar years and may, therefore, differ from reports which show fiscal year data. One exception is the category "skier visits." Skier visitation numbers are generally recorded during a ski season, which begins in November of one year and continues through April or May of the following year. For this reason, the ski figures reported in the 2001 edition would actually indicate skier visits from November of 2000 through May of 2001.

Caveat Emptor

The intent of this report is to provide accurate and useful information to evaluate the economic impact of travel and tourism on the state and on each of Utah's 29 counties. However, this report is not meant to provide an evaluation of whether counties should or should not engage in tourism development based on the economic benefits derived from tax collections, employment or business receipts. While the figures included in this report may provide useful information in evaluating existing or potential tourism development, a more inclusive community assessment that focuses on the entire tourism system is necessary before strategic planning or development decisions can be made. For additional information, please visit the Utah Department of Travel Development's website at www.utah.org/travel.

Visitation figures are often just estimates by the reporting agency. Agencies do their best to report

accurate visitation statistics, but numbers may vary due to outside influences such as traffic counter failure or changing estimating techniques. For example, traffic counter failure explains a precipitous drop in visitation at Goosenecks State Park in 1997. Likewise, anomalies in the number of reporting properties may disproportionately affect total Transient Room Tax (TRT) in small counties. For example, Emery County TRT reportedly dropped over 170% between 1996 and 1997 to show a

negative amount in 1997. Confusion over county boundaries accounted for erroneous tax collections in Emery County in 1996. The error was corrected in 1997 by transferring TRT collections to Grand County from Emery County.

Please take into consideration the appropriate methodological and statistical limitations in reporting and applying information contained in this report.

Standard Industrial Classification Codes for Travel and Tourism

Code	Industry	Code	Industry
4119	Local Passenger Transportation, NEC	7021	Rooming & Boarding Houses
4121	Taxicabs	7032	Sporting & Recreational Camps
4131	Intercity Highway Transportation	7033	Trailer Parks & Campsites
4141	Local Passenger Charter Service	7041	Membership-Basis Organization Hotels
4142	Charter Service, except Local	7211	Power Laundries, Family & Commercial
4482	Ferries	7212	Garment Pressing & Cleaners' Agents
4489	Water Transportation of Passengers, NEC	7213	Linen Supply
4493	Marinas	7215	Coin-Operated Laundries & Cleaning
4512	Air Transportation, Scheduled	7216	Dry Cleaning Plants, except Rug
4522	Air Transportation, Non-scheduled	7217	Carpet & Upholstery Cleaning
4581	Airports, Flying Fields & Services	7241	Barber Shops
4724	Travel Agencies	7251	Shoe Repair & Shoeshine Parlors
4725	Tour Operators	7219	Laundry & Garment Services, NEC
4729	Passenger Transport Arrangement, NEC	7221	Photographic Studios, Portrait
4789	Transportation Services, NEC	7299	Miscellaneous Personal Services
5411	Grocery Stores	7513	Truck Rental & Leasing
5421	Meat & Fish Markets	7514	Passenger Car Rental
5431	Fruit Stores & Vegetable Markets	7515	Passenger Car Leasing
5441	Candy, Nut & Confectionery Stores	7519	Utility Trailer Rental
5451	Dairy Product Stores	7521	Automobile Parking
5461	Retail Bakeries	7533	Auto Exhaust System Repair Shops
5499	Miscellaneous Food Stores	7534	Tire Retreading & Repair Shops
5531	Auto & Home Supply Stores	7536	Automotive Glass Replacement Shops
5541	Gasoline Service Stations	7537	Automotive Transmission Repair Shops
5551	Boat Dealers	7538	General Automotive Repair Shops
5561	Recreation & Utility Trailer Dealers	7539	Automotive Repair Shops, NEC
5599	Automotive Dealers, NEC	7542	Car Washes
5611	Men's & Boy's Clothing & Furnishings	7549	Automotive Services, NEC
5621	Women's Ready-to-Wear Stores	7832	Motion Picture Theaters, except Drive-ins
5632	Women's Accessory & Specialty Stores	7833	Drive-in Motion Picture Theaters
5641	Children's & Infants' Wear Stores	7841	Video Tape Rental
5651	Family Clothing Stores	7929	Entertainers & Entertainment Groups
5661	Shoe Stores	7933	Bowling Alleys
5699	Misc. Apparel & Accessory Stores	7941	Sports Clubs & Promoters
5812	Eating Places	7948	Racing, including Track Operation
5813	Drinking Places	7992	Public Golf Courses
5912	Drug Stores & Proprietary Stores	7993	Coin-operated Amusement Devices
5921	Liquor Stores	7996	Amusement Parks
5932	Used Merchandise Stores	7997	Membership Sports & Recreation Clubs
5941	Sporting Goods & Bicycle Shops	7999	Amusement & Recreation, NEC
5942	Book Stores	8011	Physicians
5943	Stationery Stores	8049	Health Practitioners, NEC
5944	Jewelry Stores	8062	General Medical & Surgical Hospitals
5945	Hobby, Toy & Game Shops	8412	Museums & Art Galleries
5946	Camera & Photography Supply Stores	8422	Botanical & Zoological Gardens
5947	Gift, Novelty & Souvenir Shops	9211	Courts
5978	Luggage & Leather Goods Stores	9211	Police Protection
5993	Tobacco Stores & Stands	9224	Fire Protection
5994	News Dealers & Newsstands	9229	Public Order & Safety, NEC
6531	Real Estate Agents & Managers	9511	Air & Water & Solid Waste Management
7011	Hotels & Motels	9512	Land, Mineral & Wildlife Conservation